

United States Patent and Trademark Office

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
10/625,713	07/23/2003	Seong-Gyun Kim	5649-1043	8131	
20792 7	590 02/08/2005		EXAM	EXAMINER	
MYERS BIGEL SIBLEY & SAJOVEC			CHEN, JACK S J		
PO BOX 3742	-				
RALEIGH, NC 27627			ART UNIT	PAPER NUMBER	
			2813		

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. Extensions of time may be available under the providence of 3 CPR 1.13(s). In no event, however, may a reply be timely filled If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely. If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely. If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely. If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely. If the period for reply specified above is less than thirty (30) days are provided in the statutory of the stat		Application No.	Applicant(s)			
Jack Chen Jack		10/625,713	KIM, SEONG-GYUN			
Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. Ederation of time may be available under the provision of 3°CR 1.13(a). In no awart, however, may a reply be limely filed that is \$0.00 ft.	Office Action Summary	Examiner	Art Unit			
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE £ MONTH(S) FROM THE MALLING DATE OF THIS COMMUNICATION. - Extractions of there may be available under the precisions of 37 per 1.156(s). In no event, however, may a reply be timely filed - If the period for reply specified above, the movemen atteitory period will apply and valid reply and va		1				
THE MAILING DATE OF THIS COMMUNICATION. Extensions of time may be available under the provisions of 3 CPR 1.13(6), in no event, however, may a reply be timely filed after SIX (8) MOSITYS from the mailing date of this communication of 10 CPR 1.13(6), MOSITYS from the mailing date of this communication of 10 CPR 1.13(6), MOSITYS from the mailing date of this communication of 10 CPR 1.13(6), MOSITYS from the mailing date of this communication of 10 CPR 1.13(6), MOSITYS from the mailing date of this communication of 10 CPR 1.13(6), MOSITYS from the mailing date of this communication of 10 CPR 1.13(6), MOSITYS from the mailing date of this communication, even if timely filed, may reduce any cannot patient term adjustment. See 37 CPR 1.70(6). Status 1) Responsive to communication(s) filed on	The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the c	orrespondence address			
1) Responsive to communication(s) filed on	 THE MAILING DATE OF THIS COMMUNICATION. Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication. If the period for reply specified above is less than thirty (30) days, a reply If NO period for reply is specified above, the maximum statutory period with Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing 	36(a). In no event, however, may a reply be timed within the statutory minimum of thirty (30) days will apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE	nely filed s will be considered timely. the mailing date of this communication. O (35 U.S.C. § 133).			
2a) This action is FINAL. 2b) This action is non-final. 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4) Claim(s)	Status					
4a) Claim(s) 1-34 is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration. 5) □ Claim(s) is/are allowed. 6) □ Claim(s) is/are rejected. 7) □ Claim(s) is/are rejected to. 8) ☒ Claim(s) is/are subject to restriction and/or election requirement. Application Papers 9) □ The specification is objected to by the Examiner. 10) □ The drawing(s) filed on is/are: a) □ accepted or b) □ objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). 11) □ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152. Priority under 35 U.S.C. § 119 12) □ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) □ All b) □ Some * c) □ None of: 1. □ Certified copies of the priority documents have been received. 2. □ Certified copies of the priority documents have been received in Application No 3. □ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. ARtachment(s) 1) □ Notice of Preferences Cited (PTO-892) 2) □ Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) □ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date	2a) ☐ This action is FINAL . 2b) ☑ This action is non-final. 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is					
4a) Of the above claim(s) is/are withdrawn from consideration. 5) □ Claim(s) is/are allowed. 6) □ Claim(s) is/are rejected. 7) □ Claim(s) is/are objected to. 8) ☒ Claim(s) ts/are objected to. 8) ☒ Claim(s) ts/are subject to restriction and/or election requirement. Application Papers 9) □ The specification is objected to by the Examiner. 10) □ The drawing(s) filed on is/are: a) □ accepted or b) □ objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). 11) □ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152. Priority under 35 U.S.C. § 119 12) □ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) □ All b) □ Some * c) □ None of: 1. □ Certified copies of the priority documents have been received. 2. □ Certified copies of the priority documents have been received in Application No 3. □ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). *See the attached detailed Office action for a list of the certified copies not received. Attachment(s) 1) □ Notice of References Cited (PTO-892) 1) □ Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) □ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 5) □ Notice of Informal Patent Application (PTO-152) 6) □ Other:	Disposition of Claims					
9) The specification is objected to by the Examiner. 10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152. Priority under 35 U.S.C. § 119 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. Attachment(s) 1) Notice of References Cited (PTO-892) Online of Draftsperson's Patent Drawing Review (PTO-948) Online of Draftsperson's Patent Drawing Review (PTO-948) Online of Draftsperson's Patent Drawing Review (PTO-948) Online of Informal Patent Application (PTO-152)	4a) Of the above claim(s) is/are withdraw 5) Claim(s) is/are allowed. 6) Claim(s) is/are rejected. 7) Claim(s) is/are objected to.	vn from consideration.				
10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152. Priority under 35 U.S.C. § 119 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1 Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. Attachment(s) 10 Notice of References Cited (PTO-892) 21 Notice of Draftsperson's Patent Drawing Review (PTO-948) 32 Notice of Draftsperson's Patent Drawing Review (PTO-948) 33 Notice of Informal Patent Application (PTO-152) 43 Notice of Informal Patent Application (PTO-152) 44 Notice of Informal Patent Application (PTO-152) 45 Notice of Informal Patent Application (PTO-152) 46 Notice of Informal Patent Application (PTO-152)	Application Papers					
12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 6) Other:	10) The drawing(s) filed on is/are: a) access applicant may not request that any objection to the Replacement drawing sheet(s) including the correct	epted or b) objected to by the Eddrawing(s) be held in abeyance. See ion is required if the drawing(s) is obj	e 37 CFR 1.85(a). lected to. See 37 CFR 1.121(d).			
a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 6) Other:	Priority under 35 U.S.C. § 119					
1) Notice of References Cited (PTO-892) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 4) Interview Summary (PTO-413) Paper No(s)/Mail Date 5) Notice of Informal Patent Application (PTO-152) 6) Other:	 a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). 					
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 6) Other:	Attachment(s)					
		Paper No(s)/Mail Da 5) Notice of Informal P	nte			

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species of the claimed invention:

Species I (figs. 1-11) drawn to a method for forming nonvolatile memory device without further etching a middle portion of the control gate according to first embodiment. It appears that claims 1-4, 7-22 and 31-34 read on this particular embodiment.

Species II (figs. 12-13) drawn to a method for forming nonvolatile memory device with further etching a middle portion of the control gate according to second embodiment (capable of performing a one-bit operation). It appears that claims 5-6 and 23-30 read on this particular embodiment.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic. Applicant is referred to MPEP 806.04(c) and 806.04(d) for the definition of a generic claim.

Should Applicant elected Species I, then one of the following sub-species must be elected:

Sub-species I drawn to method for forming nonvolatile memory device with spacer. It appears that claims 1-4, 7-14, 16-19 and 32-34 read on this particular embodiment.

Sub-species II drawn to method for forming nonvolatile memory device without spacer. It appears that claims 15, 20-22 and 31 read on this particular embodiment.

Art Unit: 2813

Currently, no claim is generic to sub-species I and II. Applicant is referred to MPEP 806.04(c) and 806.04(d) for the definition of a generic claim.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

2. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

Application/Control Number: 10/625,713 Page 4

Art Unit: 2813

application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack Chen whose telephone number is (571)272-1689. The examiner can normally be reached on Monday-Friday (9:00am-6:30pm) alternate Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W. Whitehead can be reached on (571)272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jack Chen

Primary Examiner Art Unit 2813

Zuncel

February 6, 2005